

Amendments to the Claims

The Listing of Claims presented below will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-74. (Canceled)

75. (Currently amended) A chemical testing apparatus comprising:
an optical fiber providing a ~~substantially one-dimensional~~ linear support conducting light along a length between two ends; and
a combinatorial library of probe compounds attached at discrete locations along the length of the optical fiber in a predetermined pattern, the probe compounds positioned to be exposed to target compounds applied to the optical fiber.
76. (Currently amended) The chemical testing apparatus of claim ~~83~~ 75 wherein the probe compounds are peptides.
77. (Currently amended) The chemical testing apparatus of claim ~~83~~ 75 further including a light source providing light conducted along the optical fiber to detect modification of the probe compounds during reaction with the target compounds.
78. (Currently amended) The chemical testing apparatus of claim ~~85~~ 77 wherein the light source is attached to at least one end of the optical fiber to transmit light by internal reflection along the length of the optical fiber to interact with multiple different probe ~~molecules~~ compounds.

79. (Currently amended) The chemical testing apparatus of claim ~~83~~ 75 wherein the probe compounds are placed on the light fiber to couple with evanescent waves through the fiber.

80. (Currently amended) The chemical testing apparatus of claim ~~83~~ 75 wherein the probe ~~molecules~~ compounds repeat with a predetermined spatial pattern.

81. (Currently amended) The chemical testing apparatus of claim ~~83~~ 75 further including a light sensor receiving light from the optical fiber to distinguish among light interacting with different ~~of the probe molecules~~ compounds.

82. (Currently amended) The chemical testing apparatus of claim ~~89~~ 81 further including a means for Fourier analysis of ~~the received light~~ received from the light sensor.

83. (Withdrawn) A method of testing an analyte having target compounds, the method comprising the steps of:

(a) preparing an optical fiber with a combinatorial library of probe compounds attached at discrete locations along a length of the optical fiber in a predetermined pattern;

(b) exposing the prepared optical fiber to target compounds; and

(c) photometrically analyzing the exposed and prepared optical fibers to detect reaction of the probe compounds with the target compounds.

84. (Withdrawn and currently amended) The method of claim ~~94~~ 83 wherein the probe compounds are peptides.

85. (Withdrawn and currently amended) The method of claim ~~94~~ 83 further wherein the step of analyzing conducts light along the optical fiber to detect modification of the probe compounds during reaction with the target compounds.

86. (Withdrawn and currently amended) The method of claim ~~93~~ 85 wherein the light source

is attached to at least one end of the optical fiber to transmit light by internal reflection along the length of the optical fiber to interact with multiple different probe molecules.

87. (Withdrawn and currently amended) The method of claim ~~94~~ 83 wherein the probe compounds are placed on the optical fiber to couple with evanescent waves through the fiber.

88. (Withdrawn and currently amended) The method of claim ~~94~~ 83 wherein the probe molecules repeat with a predetermined spatial pattern.

89. (Withdrawn and currently amended) The method of claim ~~94~~ 83 further including the step of receiving light conducted along the optical fiber at a light sensor to distinguish among light interacting with different of the probe molecules.

90. (Withdrawn and currently amended) The method of claim ~~97~~ 89 further including the step of conducting a Fourier analysis of the received light.